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## **REVIEW OF ENERGY EFFICIENCY PROGRAMS AND EUAA DIRECTIONS ON ENERGY EFFICIENCY**

**A REPORT FOR THE**

**ENERGY USERS ASSOCIATION OF AUSTRALIA**

**PREPARED BY**

**ENERGETICS PTY LTD**

**DECEMBER 2005**



** Energetics**



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***Confidentiality***

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This report was prepared on behalf of the EUAA by Energetics Pty Ltd. The report draws on information provided by the EUAA and its members. Energetics has based this report on information provided by EUAA members in a formal interview process. The views and findings expressed in this report reflect those of the EUAA and its members and are not the opinions of Energetics or its employees.

If you would like to discuss any of the findings or have any questions please feel free to contact Roman Domanski at the EUAA on +61 3 9898 3900 or Patrick Denvir at Energetics on +61 2 9929 3911.

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## Executive Summary

This report summarises the outcomes of an interview process designed to elicit responses from EUAA members to:

- ◆ Review the needs of the members in relation to energy efficiency efforts;
- ◆ Understand the various energy efficiency programs and how they are viewed; and
- ◆ Further develop the role that the EUAA could play to facilitate energy efficient efforts by its members.

To this end a formal interview process was undertaken. In total 14 self-selected EUAA members responded to an open request for interviews. In these main these respondents represented energy managers within large energy users. This report presents a summary of the findings of these interviews. The main body of the report presents a summary of the opinions of the respondents on energy efficiency programs on a state and federal level. These programs are divided into:

- ◆ Voluntary Programs – including reporting programs such as Greenhouse Challenge, and information exchange programs such as Eco-efficiency and Eco-Biz;
- ◆ Mandatory Performance and Opportunities Assessment programs – including the Energy Efficiency Opportunity Assessment (EEOA, Commonwealth), Energy Savings Actions Plans (ESAP, NSW) and the State Environment Protection Policy (Air Quality Management) (Victoria, SEPP (AQM));
- ◆ Regulated Levy Schemes – including Mandatory Renewable Energy Targets (MRETS, Commonwealth), NSW Greenhouse Gas Abatement Scheme (NGGAS, NSW) and the Queensland 13% Gas program; and
- ◆ Funding and Incentive programs – including those with a focus on energy and resource efficiency for example the NSW Water and Energy Savings Funds, the Queensland Sustainable Energy Innovation fund, and Victoria's Sustainable Manufacturing Program. Also included in this assessment are the various tradable certificates including RECs (Renewable Energy Certificates, Commonwealth), NGACs (NSW Greenhouse Abatement Certificates) and GECs (Gas Electricity Certificates, Queensland).

In addition company specific demand management and embedded generation initiatives were reviewed.

An overview of the responding organisations is presented in Appendix C, which includes an indication of their internal energy efficiency drivers and initiatives.

The outcomes of this process are an understanding of EUAA members' views on the future directions for energy efficiency and energy management, these include:

- ◆ In the future there will be increased regulatory load, energy will be more expensive resulting in reduced competitiveness of energy intensive companies, there will be increased carbon and emissions trading;
- ◆ Regulatory programs need to recognise and reward early movers in the field of energy efficiency;

- ◆ Energy efficiency will remain significant to large energy users companies, not only because it reduces costs, but also through spins-offs for example brand image;
- ◆ Industry wants programs which enable them to perform well, programs should publish and promote this good performance; and
- ◆ Users of electricity want to be able to engage with voluntary and regulatory programs on an equal basis with the generators of electricity.

The strongest conclusions which can be drawn from this assessment are that:

- ◆ Industry wants co-ordination between state and federal initiatives; at present there is a lot of fragmentation.
- ◆ Industry responds well to consultative and inclusive program development.
- ◆ They are looking for clarity, certainty, uniformity and simplicity in the formulation and implementation of energy efficiency and related programs.
- ◆ Programs require structure, and transparent and efficient bureaucracy.
- ◆ Industry also recognise the need for financial input into these programs, and welcome this in instances where this input assists them in setting priorities, and is seen to support industry activity as opposed to intervening with industry actions.

## Project Brief

### DESCRIPTION OF SERVICES

The Energy Users Association of Australia (EUAA) engaged Energetics, a leading Energy and Greenhouse consulting firm, to provide the EUAA with the following services:

1. Preparation of a submission to the Productivity Commission (PC) inquiry into Energy Efficiency that responds to the PC's draft report.
2. Provision of advice, analysis and assessments on the above, including preparation and attendance at any public forum and contact with EUAA members.
3. Development of a report that reviews the needs of EUAA members in relation to energy efficiency efforts, the various energy efficiency programs that could apply to large users and develop a role that the EUAA could play to facilitate energy efficiency effort by its members and other large users.

Specifically, some of the key areas that were to be addressed include:

1. An assessment of the PC draft report, especially how it impacts on EUAA members, energy end users more broadly and the NEM;
2. Comment on the impact of the PC's recommendations for end users, especially EUAA members, and the NEM;
3. Suggestions on how energy efficiency can be used to good effect to deliver better outcomes for end users (especially in the NEM), to improve overall competition and efficiency in the NEM, and the best approach towards energy efficiency that will benefit larger end-users;
4. An assessment of the energy efficiency needs of EUAA members (including through contact with members);
5. An assessment of the value of various energy efficiency programs that exist (or are under consideration) to EUAA members, other large end users or the NEM;
6. Advice on what role the EUAA could play to help better facilitate energy efficiency action among its members and other end users.

### PRODUCTIVITY COMMISSION

The EUAA's response to the Productivity Commission's Energy Efficiency Inquiry: Draft Report is included in this report at Appendix A.

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# Table of Contents

<b>Executive Summary .....</b>	<b>ii</b>
<b>Project Brief .....</b>	<b>iv</b>
<b>Table of Contents .....</b>	<b>vi</b>
<b>Scope of Interviews and Approach .....</b>	<b>1</b>
Scope .....	1
Interview Approach .....	1
<b>Energy Efficiency Program Performance .....</b>	<b>3</b>
Voluntary Programs .....	5
Mandatory Programs .....	5
Regulated Levies .....	10
Funding/Incentive Programs .....	13
Additional Issues Raised.....	15
Energy Efficiency Programs: Other States .....	15
Industry Associations .....	15
General Comments .....	15
What Has Worked? .....	16
What Has Not Worked?.....	16
Conclusions.....	16
<b>Demand Management, Embedded Generation &amp; the National Electricity Market</b>	<b>18</b>
Demand Management Summary .....	18
Cogeneration / Embedded Generation Summary.....	20
NEM Issues - improved access to EE & DM .....	21
Conclusions.....	22
<b>Concluding Remarks.....</b>	<b>24</b>
<b>Directions for EUAA .....</b>	<b>25</b>
Future Directions for EE.....	25
EUAA focus areas and objectives .....	26
Lobbying, Representation & Advocacy .....	26
Information & Knowledge .....	26
Demand Management.....	<b>Error! Bookmark not defined.</b>
<b>Appendix A: PC Inquiry Response .....</b>	<b>28</b>
<b>Appendix B: Survey of EUAA Members.....</b>	<b>38</b>
<b>Appendix C: Profile of Participating EUAA Members.....</b>	<b>40</b>
Company characteristics & energy sources .....	41



Internal Initiatives .....	42
Internal Drivers .....	42
Internal Programs.....	43
R&D Focus .....	43
Technology Mix .....	44
Conclusions.....	44

# Scope of Interviews and Approach

## SCOPE

This report summarises the results of an interview process conducted by Energetics for the EUAA. The EUAA commissioned this report as a response to the Productivity Commission's Draft Report on Energy Efficiency in order to determine the sentiments of their members towards energy efficiency initiatives in Australia and to gain some perspectives on the current initiatives and obligations of their members.

The survey included a limited number of EUAA members (14 in total) who volunteered to be involved in the process. These respondents were self-selected and can be assumed to be more knowledgeable and sophisticated in their management of energy than the majority of Australian industry. This statement is based on the fact that interviewees are:

- ◆ Already EUAA members and thus have an interest in, and focus on, energy use and efficiency;
- ◆ Willing to be surveyed;
- ◆ From companies which are large energy users; and
- ◆ In the main, energy specialists and/or energy managers within these companies.

It should also be noted that a number of global companies were represented in the group of interviewees. While the majority of these global companies have a significant focus on energy management, this is not a guarantee that energy management is consistent across all groups within the global company. There is likely to be a greater focus on energy management in those groups of the company that have higher energy use. In addition, the level of energy management reported in this document does not necessarily reflect the overall situation in Australian and/or the global industry.

This report delivers the outcomes of a high level review of voluntary and mandatory programs that are impacting on large energy users. Additional information on internal activities was also collected to augment the information set. The survey did not seek to assess at any detailed level the success, comprehensiveness or quality of internal activities; this was intended simply to confirm if companies had internal programs that could or do overlap with mandated requirements, or are influenced by such requirements.

The interviews were constructed to review, at a high level, the impacts and opportunities arising from federal and state government programs. In the main, these interviews were conducted with energy managers, and not necessarily strategic managers within the companies. The results of the interview process delivered general areas of concern and generic potential actions. Including more members in the interview process would make the outcomes included in this report more specific.

## INTERVIEW APPROACH

As a pre-cursor to conducting interviews with members, and to help inform discussions, an initial desktop review of Energy Efficiency (EE) and Greenhouse Gas (GHG) policies and initiatives was conducted by Energetics. The review was as exhaustive as possible, and included documentation of initiatives at both Commonwealth and State levels, to ensure all possible initiatives that members

participate in (whether mandatory or voluntary) were captured. Industry specific initiatives were noted for discussion, however, no prior research was carried out to identify specific internal actions by individual members.

In addition, Energetics developed a set of questions to be asked during the course of discussions with EUAA members. This set of questions was fairly general in nature, with broad categories defined, each with generic questions to invite discussion around areas that affect particular members. This set of questions is included in Appendix B. Appendix B also contains a complete list of the programs included in the review listed above. In total twenty programs were included in this review.

The review document and question set was circulated to all the members of the EUAA who answered positively when a request for interview was extended to them. Care was taken to ensure that a number of different classifications of industry were included in this survey. For example:

- ◆ Diverse industry and single product industry;
- ◆ Energy as a significant contributor to on-going operating costs and energy as a lower cost to the company;
- ◆ Single state operators and companies which operate in all states (an attempt was made to include all states, this was limited by the demographics of the EUAA membership);
- ◆ Primary industries and downstream manufacturing / services;
- ◆ Trade exposed and domestic market-oriented industries

Respondents were interviewed either face to face or telephonically, which ever they found more convenient. Interviews were conducted by senior Energetics personnel. In cases where the respondent was an existing Energetics client, the interview was conducted by the relevant client manager.

The Energetics interviewer then transcribed the interview and forwarded this first draft to the interviewee to ensure that the transcription adequately reflected the content of the interview. This also allowed respondents to flag issues that they deemed 'commercial in confidence'. Final transcripts from all interviews were then used to construct the summary included in this report.

The summary included in this report represents the views of the EUAA members and not those of Energetics. All possible care has been taken to ensure that the views of the members are clearly reflected in this report.

The set of questions that was used to guide the interview process was divided into a number of sections covering:

- ◆ Industries' existing (and future) program participation and impacts;
- ◆ Historical initiatives and what has worked for companies in the past;
- ◆ A review of demand management and embedded generation issues;
- ◆ An investigation of what the company is doing internally; and
- ◆ An indication of where the EUAA can add the greatest value for its membership going forward.

The sections that follow have been structured in line with these question sets.

## Energy Efficiency Program Performance

The surveys with members have sought to acquire views on the performance of energy efficiency programs, both past and present. In the main, the old *Greenhouse Challenge* Program elicited comment from members, with limited participation and/or comment on other past initiatives.

Most current programs, and certainly those that have higher profile and direct focus on energy efficiency and greenhouse, are tending towards a mandatory approach. Greenhouse-related schemes such as MRET and NGGAS are generally delivered in the form of charges passed through to users, with proceeds intended to support the development of projects aimed at meeting overarching policy aims. Energy efficiency, at Commonwealth, NSW, Victoria and Queensland levels is being advanced via mandated audit / assessment approaches. The Victorian EPA scheme (*SEPP(AQM)*) stands out in that implementation of measures with a 3-year payback or better is mandatory.

In this section we present the responses to questions on these programs according to the following structure:

- ◆ Voluntary Programs: reporting initiatives and information exchange;
- ◆ Mandatory Programs: these have a focus on performance and opportunities assessment;
- ◆ Regulated levies; and
- ◆ Funding and incentive schemes

In the main programs reported on by respondents are national in nature. Some states have mature programs, including New South Wales, Victoria and Queensland. There is limited activity in other states.

In summary, the following were the standout observations made by EUAA members:

- ◆ Internal drivers for change are dominated by economic performance; a project will only go ahead if it meets the requisite hurdle rates. Energy efficiency projects are more likely to achieve the required internal hurdle rates as they are generally more cost efficient than competing projects with poor energy use. Of specific interest here is that respondents reported internal project payback times that were much shorter than the strategic planning times of regulatory frameworks; this misalignment of time scales can render energy efficiency projects unviable;
- ◆ Voluntary reporting programs, for example *Greenhouse Challenge* and *Greenhouse Challenge Plus*, have not been developed to support change. In many cases these are being absorbed into sustainability reporting initiatives;
- ◆ Voluntary information exchange programs like *Eco-Biz* attracted limited participation by EUAA members;
- ◆ Voluntary programs are increasingly being replaced by mandatory approaches;
- ◆ Mandatory performance and opportunities assessments, for example, the Commonwealth's Energy Efficiency Opportunity Assessments (*EEOA*) program have highlighted the need for comprehensive consultation with



industry, and a significant need for co-ordination between government bodies at both Commonwealth and State level;

- ◆ Regulated levies were seen generally to present opportunities to generators of electricity. Users of electricity view these as pass through costs;
- ◆ Funding and incentives programs met with positive response where they were designed to support industry and where funding mechanisms were simple.

## VOLUNTARY PROGRAMS

These include reporting initiatives and information exchange/capacity building programs. In the main, these are historical programs as they are increasingly being replaced by mandatory assessments. A summary of responses to these programs is included below.

**Table 1: EUAA Member Comments on Voluntary Programs**

Type of Initiative	Initiatives commented on	# of Respondents Commenting	Summary of Comments
Reporting	Greenhouse Challenge; Greenhouse Challenge Plus	8	<p>Reporting only, had little impact on site performance and activities.</p> <p>Some companies are no longer involved.</p> <p>Uncertainty from the respondents about the level of government support for voluntary reporting programs; as a result some of the companies could not see what the benefits of participation are and are losing confidence in reporting initiatives.</p> <p>There was limited clarity on the value of the programs; state governments doing their own thing de-valued the programs.</p> <p>No consideration was given to early movers.</p> <p>The program had the potential to deliver improved outcomes for smaller sites.</p> <p>Information incorporated into sustainability report.</p>
Information Exchange	DITR EEBPP, NSW SEDA Energy Smart Business, Warren Centre Study; Queensland Eco-Biz, SEAV BEEI	5	<p>Provision of resources to support sites can work well. In the absence of support and incentives, Programs tend not to work well.</p> <p>Limited focus on new technologies and systems – most potential lies in existing stock, however some benefits gained / questions answered.</p> <p>Modest impact, focus on applications outside of core business, cost and benefits low, access to external resources was good.</p> <p>Programs must deliver their ideals.</p> <p>Low participation by EUAA members.</p> <p>Many past programs are being phased out.</p> <p>Applicability of these programs are often a function of size of site</p>

## MANDATORY PROGRAMS

These are performance and assessment programs, a number of which are still in development and/or the first stages of implementation. The key programs which respondents listed here are the Commonwealth's *EEOA* program, NSW's *Energy Savings Action Plans (ESAP)* program and Victoria's *SEPP (AQM)* program.

A summary of the respondents' comments on these programs is:

- ◆ Companies need to understand the value which these programs present to industry, the programs need more of a business focus;

- ◆ Consultation is key to the success of the program. For EEOA and ESAP, consultation was viewed as generally good; consultation for the SEPP program was poor;
- ◆ Companies are looking for consistency and certainty and management of jurisdictional overlaps between State and Federal government departments. This concern extends to timing of reporting requirements between the initiatives;
- ◆ There is a significant need for coordination between government bodies and for effective program administration;
- ◆ The Victorian SEPP (AQM) program attracted criticism because of its lack of consultation, the perception that their auditors were under-prepared and unqualified, and because of the mandatory implementation provisions, which were seen as too onerous.

The following tables contain a summary of respondents' comments gleaned from the interviews.

**Table 2: Mandatory Programs: Commonwealth EEOA**

<b>Initiative Name</b>	EEOA
<b>Number of interviewees who are participants</b>	12
<b>Aim and Scope</b>	The aim to drive energy efficiency is clear, the scope is still under development.
<b>Delivery Mechanism</b>	Still under development; some models were presented by the respondents which focused on their own needs; in the main they would prefer a technology driven approach with opportunities demonstrated in limited locations and then rolled out to other operations.
<b>Cost Impact</b>	Cost of compliance is expected to be significant; impacts will be in cost and personnel time. Direct benefits are expected to be limited. EE initiatives improve margins and profitability which companies already focus on. These types of programs can support existing initiatives and drive companies to do better.
<b>Benefit</b>	There may be incentives/grants, though how to access these is unclear.  These sorts of program are potential opportunities in their own right, having an independent third party look over your processes and systems will either serve to confirm that the company is travelling well, or will suggest areas of improvement.
<b>Consultation</b>	Consultation for this program was extensive and inclusive. In the main, companies had a positive response to this element; concerns were expressed as to whether this consultation was conducted at the correct level.
<b>Overlap</b>	NSW Energy Savings Fund appears to aim for similar outcomes; overlap also exists with existing internal functions, and in some cases with Govt: Industry Action Agendas.
<b>Impressions</b>	The program has been well-communicated, consultation with industry has been good, and the program's aims and implementation have been clearly set out.
<b>Points of Clarification</b>	The types of fuels to be included are not clear, specifically for cases where energy carriers are reagents and not used (entirely or at all) for their energy content.  Clarity is required on whether sites or companies need to report.
<b>General Comments</b>	Once again this is a program which targets the big producers, and thus the big consumers. The assumption is made that they can afford to comply because of their size. There are two concerns here. The first is that companies have only reached this size because they are already addressing these issues; the second that this sort of initiative have the potential to drive companies out of Australia if cost of compliance becomes prohibitive.

**Table 3: Mandatory Programs: New South Wales ESAP**

<b>Initiative Name</b>	New South Wales Top 200 Audits & Energy Savings Fund
<b>Number of interviewees who are participants</b>	7
<b>Aim and Scope</b>	Aim is to drive EE and DM initiatives; companies appear to place more emphasis on the water aspects than the energy ones as water is a significant issue for industry and they see that this is where there is greater potential to deliver improvements.
<b>Delivery Mechanism</b>	Delivery is clear on one side – what the levy is and who will pay it; but the mechanism for delivery of energy savings is not clear.
<b>Cost Impact</b>	There are potential personnel time and actual costs; these are limited though unclear as the rules need to be clarified.
<b>Benefit</b>	<p>The potential benefits of this scheme are unclear as the process whereby incentives and grants for both energy and water efficiency will be meted out has not been clarified; industry is unsure how to tap into the potential opportunities offered by this scheme.</p> <p>The potential does exist for funding from this scheme to be used to support projects which would not be economically viable in their own right.</p>
<b>Consultation</b>	In the main consultation in NSW has been very satisfactory in the past; government recognises they need to consult industry when developing these programs and they involve industry well.
<b>Overlap</b>	There is an overlap with the EEOA as it appears that the requisite action plans are broadly similar; the extent of this overlap is not clear as yet.
<b>Impressions</b>	<p>The impression is that it will be possible to publicise good performance to NSW customers; there is limited potential to improve EE, more chances to improve water efficiency.</p> <p>It is seen as a reasonable program through which good performance can be publicised.</p>
<b>General Comments</b>	It would be more efficient to co-ordinate state projects into a single process and manage them centrally.

**Table 4: Mandatory Programs: Victoria SEPP (AQM)**

<b>Initiative Name</b>	Victoria EPA (SEPP (AQM))
<b>Number of interviewees who are participants</b>	5
<b>Aim and Scope</b>	Energy audit level 2 – plan of action submitted to EPA – all projects with less than 3-year payback to be implemented by December 2006.
<b>Delivery Mechanism</b>	EPA License requirement.
<b>Cost Impact</b>	Can be significant: Administering the scheme (auditing, planning, reporting etc) in region of \$250k; one full-time person plus additional costs.
<b>Benefit</b>	<p>No incentives or grants directly available from EPA, but the SEAV does provide funding under the <i>BEEI</i> program for feasibility studies into innovative projects.</p> <p>SEAV grants have already been used by some companies to assess the potential of different projects.</p> <p>One company has already achieved targets for energy intensity reduction in one project.</p> <p>Potential benefits of the scheme are generally seen as very limited</p>
<b>Consultation</b>	Is perceived as poor.
<b>Overlap</b>	May overlap with EEOA.
<b>Impressions</b>	<p>Initially thought it was ‘reinventing the wheel’, however the program put some focus into EE that was lacking previously in some companies, mainly through engaging another level of management in EE activities – engineering and some operational people.</p> <p>Most felt that it is not adequately business focused.</p> <p>Questions were asked about the ability of the department involved to manage the program.</p>
<b>General Comments</b>	<p>Some projects already initiated under the scheme have successfully met their energy target improvements.</p> <p>Programs such as SEPP and (previously) Greenhouse Challenge are not achieving what they should because they can drive members to do unproductive things. Companies should not be forced or told to spend money in areas that are not critical to business. Credit for previous actions should also be included in these programs – EPA is not putting enough emphasis here. If a company can demonstrate on-going improvements in energy efficiency, including the specific areas of improvement, they should gain some credit.</p>

## REGULATED LEVIES

These are the levies charged on electricity provided to users by generators. Some of the EUAA members interviewed are both users and generators; a number of the members interviewed are only users of electricity. Programs commented on by the members interviewed are the Commonwealth's MRET scheme, the NSW NGGAS program, and Queensland's 13% Gas initiative.

A summary of the respondents' comments is:

- ◆ In general these schemes benefit generators and not users. They represent a pass-through cost to a user's customers, companies are not happy to pay these monies if there is only a limited chance of their being able to access the associated funds and incentives (see next section);
- ◆ There is a general lack of clarity on how these levies are used;
- ◆ Companies have concerns about whether the programs are delivering their stated aims and objectives;
- ◆ Companies want to know how they can access the funds raised by these schemes to assist them in taking action to limit their own liability;
- ◆ Where consultation was good, the programs are better accepted, Queensland's 13% Gas scheme has a very poor image; NGGAS and MRET consulted quite well and are better accepted.

The tables below include comments made by EUAA members on the schemes listed above.

**Table 5: Regulatory Levies: Commonwealth MRET**

<b>Initiative Name</b>	MRET
<b>Number of interviewees who are participants</b>	14
<b>Aim and Scope</b>	Drives renewable energy development.
<b>Delivery Mechanism</b>	Charged to electricity bills, administered by ORER.
<b>Cost Impact</b>	Cost is significant
<b>Benefit</b>	<p>Many see no benefits for companies who do not have an opportunity to generate electricity; this program represents a cost obligation, which has resulted from regulation. It would require a fundamental change in the scheme or the core competencies of the company before this program could offer any benefits to energy users.</p> <p>Some see merit in the scheme, as it is possible to see a link between monies paid and growth in renewables.</p> <p>Energy generators have the chance to generate and sell RECs, and this represents a significant opportunity.</p>
<b>Consultation</b>	Is perceived as being good, as the program is seen as being well-structured and has the potential to deliver its desired outcomes.
<b>Overlap</b>	NGGAS and 13% Gas; Green Power in terms of generation plant; there are also overlaps with internal environmental objectives; also overlap at an international level
<b>Impressions</b>	<p>The fact that the scheme is national and is applied in the same manner across the country; this is better than the state based schemes which have the potential to appear to have conflicting aims.</p> <p>The program is good in that it is clear what needs to be done, and the costs associated. The future mapping of strategies within the scheme is useful as the goal posts are known, though future changes in government may have the ability to skew these.</p> <p>The program is correctly structured for its aims, which are to recover monies to invest in cleaner energy production. It is thus of indirect benefit to industry in general.</p> <p>The levy nature of the MRET scheme is seen as a dis-incentive to improve. It is a tax with no positive impact; something like purchasing Green Power has a more positive image associated with it (the same comments can be made about NGGAS and 13% Gas).</p>
<b>General Comments</b>	It is a problem that the states don't work together, keeping track of all the schemes and their requirements is complex and requires significant input from industry.

**Table 6: Regulatory Levies: NSW NGGAS**

<b>Initiative Name</b>	New South Wales NGGAS
<b>Number of interviewees who are participants</b>	8
<b>Aim and Scope</b>	Reduce greenhouse emissions associated with electricity delivery. The scope of the measure includes all end users and creators of NGACs.
<b>Delivery Mechanism</b>	IPART as scheme administrator, develop and manage rules for NGACs / LUACs; charges passed through via electricity bills.
<b>Cost Impact</b>	Relatively significant; significant administration costs; for generators there is a significant opportunity for revenue creation.
<b>Benefit</b>	<p>Companies can manage their own benchmarks, this makes it a transparent and directly applicable scheme.</p> <p>Participation in this type of scheme builds knowledge within the company and supports internal environmental activities.</p> <p>Benefits accrue to generators only through the generation and sales of NGACs, there are little benefits to users</p>
<b>Consultation</b>	Industry was well consulted and involved in the development of this program.
<b>Overlap</b>	These are often internal; also overlaps with MRET and Green Power in terms of generation plant.
<b>Impressions</b>	This is seen as a good system by some, one of the best in the world - impression is generally positive. This view is not unanimous, with low or difficult access to benefits and low transparency in terms of the flow of funds to low-emission projects seen as negatives.

**Table 7: Regulated Levies: Queensland 13% Gas Scheme**

<b>Initiative Name</b>	Queensland 13% Gas Scheme
<b>Number of interviewees who are participants</b>	7
<b>Aim and Scope</b>	Not sure whether the aims are achievable.
<b>Cost Impact</b>	Significant: This program is targeted at supporting generation activities; industry bear costs for generation meeting their outcomes, as such it serves only to increase the cost of energy.
<b>Benefit</b>	As a user of electricity alone, it is not possible for some industries to get benefits from this scheme; it is only a cost
<b>Consultation</b>	Extremely limited leading to limited acceptance of the program, the consultation process is seen as poor.
<b>Overlap</b>	MRET
<b>Impressions</b>	Impression is unfavourable, there was very quick implementation of the program. Unlike MRET and NGACs these came in at a fixed price (they were not phased in), and there was very little notification of their implementation; no time was allowed for budgeting for this additional cost.
<b>General Comments</b>	A potential indirect benefit is the fact the Queensland generation will not be based solely on coal, which has the potential to improve competition in the long-term; could reduce the risk of supply through diversification.

## FUNDING/INCENTIVE PROGRAMS

These are funds which make monies available to support energy efficiency projects. Not all of these funds have energy efficiency as a primary driver. These initiatives include:

- ◆ NSW Water and Energy Savings Fund
- ◆ Queensland *Sustainable Energy Innovation Fund (SEIF)*
- ◆ Victoria's *Sustainable Manufacturing Program*
- ◆ RECs, GECs and NGACs (as generated by the regulated levy schemes listed above)

A summary of the respondents' comments is:

- ◆ In general companies are supportive of initiatives which make monies available, the *caveat* here is that government should not tell business how to operate, rather they should act in a supportive role;
- ◆ It was noted that payback periods can differ; energy savings projects are judged against a payback time from 6 months to 4 years (with the average being 1 to 3 years). However strategic projects generally have a payback time of 3 to 10 years, companies require funding to get marginal projects over the line;
- ◆ It is important that funding mechanisms be simple and have limited bureaucracy as companies find transaction costs associated with accessing

these funds prohibitive; companies require better information and accessibility; at the same time the program must retain its rigor;

- ◆ Companies are looking for the dollar benefits associated with mandatory reporting requirements.

EUAA members commented on the NSW NGACs scheme, and the Queensland Sustainable Energy Innovation Fund. These responses are included below.

**Table 8: Funding/Incentives Programs: NSW NGACs**

<b>Initiative Name</b>	NSW NGACs
<b>Number of interviewees who are participants</b>	5
<b>Aim and Scope</b>	To create GHG abatement certificates to enable liable parties to acquit benchmark liability.
<b>Delivery Mechanism</b>	IPART – created and manage process for application and auditing of NGACs using accredited verifiers.
<b>Cost Impact</b>	Experiences with this program are mixed, from one company where the NGACs claimed raised only a fraction of the cost of generating them, and the income was in the order of 10% of the monies spent; to another company that had a 40-fold return on their investment.
<b>Benefit</b>	Some companies that have claimed NGACs indicated this was very difficult, the bureaucracy is burdensome and makes the process extremely complicated.
<b>Consultation</b>	This was good, and industry was involved from the early stages. The note was made that companies should work out for themselves what sort of involvement in this type of program means for them and work out how involved it is sensible for them to be.
<b>Overlap</b>	There is a direct overlap with MRET.
<b>Impressions</b>	To some the program is quite good, unlike MRET is does not apply only to generators, which makes demand-side participation possible.  The bureaucracy involved is a significant issue.  To some members this scheme is seen as a tax, with little indication of how monies are re-invested into low-emission supply side or demand side measures. In addition the scheme levies all users and does not recognise early mover action.
<b>General Comments</b>	LUACs apply better to multiple energy users; NGACs are easier to engage with for a single energy user.

**Table 9: Funding/Incentives Programs: QLD Sustainable Energy Innovation Fund**

<b>Initiative Name</b>	Queensland Sustainable Energy Innovation Fund
<b>Number of interviewees who are participants</b>	1
<b>Aim and Scope</b>	To part fund innovative programs or technology for business to become more sustainable.
<b>Delivery Mechanism</b>	Based on application for funds.
<b>Cost Impact</b>	Relatively small, some investment of time which is paid for out of the program.
<b>Benefit</b>	Based on part funding projects to support sustainability; benefits to specific sites, not at a corporate level.
<b>Overlap</b>	None
<b>Impressions</b>	Good, supply funding to get marginal projects over economic hurdles.

## ADDITIONAL ISSUES RAISED

### **Energy Efficiency Programs: Other States**

- ◆ Lack of initiatives to support improvements or a shift to renewable energy in South Australia was commented on. The potential to support interstate trading certificates in this regard was raised.
- ◆ No initiatives for Tasmania, the territories or Western Australia were reported. Some respondents do have operations in these regions.

### **Industry Associations**

- ◆ Some industry associations have limited input to the debate (Industrial Gases Council), others are more proactive (Water Association, PACIA, Queensland Major Gas Users Group, Business Council of Australia and AIE).
- ◆ The *Cities for Climate Protection*, *Government Energy Management Policy* (GEMP), the SEDA *Green Power* Program and the WSAA *Green Count* initiative have been included in this section as industry initiatives for government and quasi-government respondents. These schemes have been designed to support the manner in which energy is used and reported within local authorities, as well as supporting the use of renewable power and energy efficiency by government agencies. The general consensus on these programs is that those with a reporting focus that allowed councils to benchmark against other councils were useful; the programs aimed at supporting the use of renewable energy were of limited cost (even though they seemed unnecessarily complicated) and delivered limited value; and programs aimed at changing the actions of the public were unsuccessful.

### **General Comments**

- ◆ *LUACs*: while these are applicable to some respondents they have chosen not to engage with them due to other (regulated) requirements. Some respondents voiced concerns about the potential to trade in *LUACs* and the fact that this might undermine the value of the program as it has the potential to make the cost of compliance extremely low and thus there would be no driver for change.

- ◆ LUACs apply to multiple energy users; NGACs are easier to engage with for a single energy user.
- ◆ Some companies have internally appointed advocacy specialists who work on company-government interactions.
- ◆ Being involved in reporting programs gives the respondent credibility, that they are doing some accounting in accordance with some standard methodology and how they have moved from one operating point to another; and have made measurable savings in accordance with a known set of requirements. That is the main value of the programs, together with the kudos of being a member of a recognized program.

#### ***What Has Worked?***

- ◆ Revenue Streams from RECs and NGACs provide incentives / rewards for relevant activities. Programs may assist, complement etc, but ultimately the company takes primary responsibility for achieving EE / GH outcomes. Reporting provides consistency in methodology and supports benchmarking and other comparisons.
- ◆ Some limited success reported in facilitated, consultative programs, though in some cases poor targeting of core-business opportunities leads to low cost / low benefit outcomes.
- ◆ In general, the CCP program has been very successful as it has provided a structure for GH reporting for Councils and enables Councils to show leadership.
- ◆ The SE Qld Region of Councils (SEQROC) was set-up and the energy managers meet on a regular basis. This has been very successful as different councils take leadership in different areas and trial different products or processes. The successful trials can be then be rolled out across other councils with a lower risk to Government.
- ◆ Companies see that they often do much better in the market on their own than going through a scheme.

#### ***What Has Not Worked?***

- ◆ The high transaction cost of NGACs and the quality of auditing processes are disincentives, and could be improved to make it easier for business to participate at lower cost, while maintaining a necessary level of rigour.
- ◆ Mandatory measures, particularly implementation, provide little incentive to improve in other areas – if mandated actions / costs are poorly targeted there is little incentive (and \$\$) to improve in other areas.
- ◆ Regulated taxes, levies etc are poor signals as they do not always drive internal improvement, and where they seek to (such as NGACs) the exchange costs can be high.
- ◆ The community programs that are part of CCP have had little impact. Not sure whether it was due to the program design or that the community is not interested.

## **CONCLUSIONS**

- (a) For the majority of members, Greenhouse Challenge which focuses on reporting was of limited benefit in supporting change;

- (b) Capacity building programs such as EEBPP, SEDA's ESB and SEAV's BEEI initiative, as well as funding programs such as Queensland's SEIF were generally better regarded, with key attributes including consultation, facilitation, cost-effectiveness, focus on business needs, partnering and innovation;
- (c) For assessment mandatory programs the objectives and nature of EEOA (Commonwealth) and DEUS (NSW) mandatory assessments are yet to be completed. Key factors that will influence their success include continued consultation, ensuring overlaps are removed, ability to access incentives and flexibility in meeting the requirements consistent with business focus and objectives. To date consultation has generally been good;
- (d) The Victorian EPA's SEPP (AQM) measure is poorly communicated and negatively impacts on business via mandated implementation and lack of incentives and recognition for early movers;
- (e) Accessing incentives via NSW NGGAS scheme (NGACs, or as LUAC) and Queensland's 13% Gas scheme (GECs), is often burdensome; and the high transaction costs and poor communication, with limited visible benefit to users creates, in general, a poor impression. Better communication of the intent, and streamlined access to benefits or incentives, could improve this perception;
- (a) Varied responses to the MRET scheme were observed – costs are seen as high and potentially a disincentive to some users on voluntary action, and many users are unable to benefit while there are opportunities for others. The link between the levy and growth in renewables is evident and clearly communicated. A national approach such as this is preferred over fragmented state-based schemes, each with somewhat different objectives

## Demand Management, Embedded Generation & the National Electricity Market

The members interviewed have a limited awareness of formal programs in place to support Demand Management (DM) and Embedded Generation (EG) initiatives. The programs identified in this area include:

Demand Management:

- ◆ NSW DIPNR Fund
- ◆ SA ETSA

Embedded Generation:

- ◆ NSW Cogeneration Scheme

Only the NSW Cogeneration Scheme was reported on by the members interviewed. This response is included in the general discussion which follows.

In summary, twelve of the members interviewed are taking / have taken advantage of curtailable and other DM programs; in the main these are driven by financial returns, although there are additional private and NEM benefits associated with these internal programs. Most of the companies interviewed can, and want to, do more. Their requirements are that government make participation easier. The ease of participation could be supported by:

- ◆ A visible mechanism and pricing for DM.
- ◆ Addressing the fragmented nature of NEM, offers significant improvement; and coordination of state approaches.
- ◆ The development and implementation of structures for better trading of DM (e.g. EUAA trial).

With respect to embedded generation programs, nine of the respondents had investigated the potential of EG within their own context, but implementation of EG has been limited. This is mainly due to the fact that these projects are seldom economic, capital cost considerations, differential energy prices and uncertainty about future energy pricing, and grid access / availability charges. Further, many companies report that energy generation is not core business and thus represents significant risk, which they are not willing to take on. Uncertainty around future markets for tradeable emissions adds to the concerns here, as investment analyses on EG projects usually omit carbon value due to lack of clarity. Limited government support for EG projects has also inhibited their uptake.

Findings from the member surveys for Demand Management and Embedded Energy are included below.

### DEMAND MANAGEMENT SUMMARY

Several of the members surveyed participate in DM activities. These voluntary arrangements are flexible, enabling members to prioritise their core business requirements above DM response. These are summarised below.

**Table 10: Summary of DM participation & comments by EUAA members**

<b>Mode of implementation/Comments for various interviewed EUAA members</b>
3 organisations are voluntary participants in DSR, and see this as a money earner.
2 organisations are either not aware of DM options or are not a participant at any level.
<p>4 organisations have experience with DM and see relatively low benefits presently:</p> <ul style="list-style-type: none"> <li>• 1 previously had curtailability agreement with network providers, and currently has 2 sites with DSR agreements. Benefits are limited at this stage, and network operators are perceived not to care.</li> <li>• 1 curtails demand when required by their network operator; this can result in problems with product quality and only really breaks even.</li> <li>• 1 has engaged in demand management since 1996/7, initially via partial exposure. This involved too much risk, and the monetary benefits were not commensurate with the level of operational risk; hence they have moved to negotiated load shedding; negotiated on a site-by-site basis. They can also provide emergency response at a local network level.</li> <li>• 1 has participated in a recent Victorian Scheme for summer peak demand control.</li> </ul>
<p>For 2 organisations DM is seen as a higher priority than EE:</p> <ul style="list-style-type: none"> <li>• DM is a higher priority than EE as it benefits the business directly and is good in an energy supply context. Better for companies where energy is 25% of costs, when energy is around 5-10% then opportunities are limited; currently limited economic drivers.</li> <li>• Energy draw is actively managed internally in response to peak / Time-of-Use prices; looking to centralize these activities and considering DSR contracts with various parties.</li> </ul>
<p>3 organisations have recently investigated, or are presently investigating DM opportunities:</p> <ul style="list-style-type: none"> <li>• 1 has participated in DIPNR/Transgrid/EA studies; and in Integral Energy network studies on constrained zone sub-stations.</li> <li>• 1 previously had curtailability agreements in place, and is currently 90% complete on a plan for demand side response initiative. The main barrier is internal risk to critical equipment. No capital contributions from NEM or others to make it viable.</li> <li>• For 1 organisation demand management at a local level is limited owing to the low level of response (and benefit) available. A wider approach across multiple sites would potentially offer greater incentive. Economic benefit and technical feasibility would need to be compared with business impacts.</li> </ul>

## COGENERATION / EMBEDDED GENERATION SUMMARY

The only formal EG Scheme commented on in the interviews is the NSW Cogeneration Scheme. A summary of this response is included below.

**Table 11: NSW Cogeneration Scheme**

<b>Initiative Name</b>	New South Wales Cogen Scheme
<b>Number of interviewees who are participants</b>	2
<b>Aim and Scope</b>	Drive co-generation opportunities
<b>Cost Impact</b>	Very limited costs
<b>Benefit</b>	Several studies have been completed funded by this scheme. Benefits were limited because the studies had already been completed by the company.
<b>Overlap</b>	Overlap with existing internal initiatives
<b>Impressions</b>	Limited value

Some of the main comments from discussion with members include:

- ◆ Cogeneration has been assessed many times and a recent full evaluation could not show a feasible option. Needs a better sell price or lower fuel cost;
- ◆ Alternative energy generation technologies (not cogen) are being investigated for a number of different reasons; meeting growing demand, generation of MRETs and the like, increasing the intangibles associated with being a green company. However, uncertainty about the longevity of these schemes (MRET, NGGAS) and uncertainty in markets for certificates both create financial uncertainty;
- ◆ Cogeneration has been analysed and may have a business case but recent distribution price reduction will reduce its viability. Also it is not core business so an outsourced solution would need to be adopted (note 1 organisation is conducting their assessments through a third party, they see few barriers). Buyback prices need to be improved for projects to be feasible;
- ◆ Even with low cost renewable fuels, it is difficult for projects to be economic; questions are asked about the role of MRETs here and the fact that they are under-valuing the market;
- ◆ Some respondents use embedded energy to meet demand management requirements;
- ◆ Concerns exist regarding demand response in terms of pricing in the market and its lack of predictability; this can lead to communication issue with sites especially when process changes are required for generation;
- ◆ There is little support from government for embedded energy projects; this is exacerbated by differences between jurisdictions.

Individual members have had different experiences with assessment and viability of cogeneration / embedded generation, as summarised below.

**Table 12: EUAA member experience with cogeneration / embedded generation**

Status	Number of respondents
Cogeneration / Embedded Generation is an option in some instances	5
Cogeneration / Embedded Generation has been assessed but was too expensive / not cost effective	5
Cogeneration / Embedded Generation is outside our core competencies	2
Cogeneration / Embedded Generation is not an option with our technology set	2
We have not investigated Cogeneration / Embedded Generation or only in a very minor way	2

### Conclusions for Cogeneration / Embedded Generation:

The conclusions that can be drawn from discussions on Cogeneration / Embedded Generation include:

- ◆ These opportunities are seldom demonstrably economical
- ◆ There is too much uncertainty around the future markets for tradeable emissions certificates for these to support the economic viability of cogeneration or embedded generation opportunities
- ◆ For companies that are only energy users the non-core nature of the technologies is a definite barrier
- ◆ There is little support from government
- ◆ The focus on energy efficiency skews efforts away from renewable energy sources

### NEM ISSUES - IMPROVED ACCESS TO EE & DM

Some of the main comments from discussion with members include:

- ◆ An improvement would be earning carbon credits for gas fired cogeneration, some companies support alternative generation technologies such as wind power when they could be investing in cogeneration opportunities;
- ◆ The NEM does present opportunities. Some companies have negotiated individual contracts with each of their suppliers. If there was a nationwide approach, such as a NEM, then it would not be necessary for companies to engage with these complex negotiations as often. At the same time, a NEM approach might mean that it is not possible for a company to tailor contracts exactly to meet their requirements, which might result in a lost opportunity for companies with greater flexibility;
- ◆ There is plenty of opportunity to consolidate and co-ordinate all of these opportunities and practises across the states; it is frustrating to have different programs in the different states; this doesn't add value to a national company operating in all states. EUAA is a useful exchange in this context.

Consistency and centralisation of policy and objective setting would be very useful;

- ◆ Change the demand TOU tariffs to provide more incentive for demand control and energy generation;
- ◆ The Australian Energy Regulator is a move in the right direction, however the question that remains to be answered is how this position is likely to be manipulated for political gain;
- ◆ Clarified requirements for metering used to create RECs and NGACs and consistency between these schemes. That is, meters, CTs, VTs may not be used for power revenue creation, but may be used for REC, NGAC revenue creation, hence require appropriate standards to be applied consistently. This should be addressed at a NEM level;
- ◆ Publicly visible mechanism and pricing for DM initiatives (generation and /or load shedding, EE etc);
- ◆ Placing a value on carbon will support the business case for energy efficiency projects;
- ◆ Want to have a scheme where curtailable load can be traded better, i.e. more efficient use of these systems to deliver more value to the companies involved;
- ◆ What is needed is some kind of market structure which gives companies whose prime business is not generation or shedding power, the ability to help the overall load decision;
- ◆ Other areas include the regulatory environment and government, failure to adopt any international play in the greenhouse field, and weak support for renewable energy programs and projects;
- ◆ Lack of agreement between jurisdictions leads to confusion in the market place and increased uncertainty; in the face of this uncertainty companies are likely to take no action.

## CONCLUSIONS

The conclusions which can be drawn from this set of member comments are:

- (a) A number of members are active participants in demand management via voluntary arrangements with electricity providers;
- (b) However, many opportunities for embedded generation continue to be economically unviable owing to uncertainty in policy directions, fragmented regulatory regimes, lack of government support and the non-core nature of cogeneration for many members;
- (c) Greater opportunities for DM and EG will arise via:
  - ◆ Simplified, uniform, consistent processes and certainty regarding regulation and programs;
  - ◆ Clarified requirements for metering; and
  - ◆ Publicly visible mechanism and pricing for DM initiatives.
- (d) Numerous barriers exist to the more widespread uptake of DM and EG, with the result that many opportunities are "lost". Barriers identified include:

- ◆ Existing fragmented system and the lack of agreement between jurisdictions leads to confusion in the market place and increased uncertainty; in the face of this uncertainty companies are likely to take no action;
  - ◆ Differences between the states has the potential to impede the efficiency of a national market; and
  - ◆ Weak support for cogeneration and renewable energy programs and projects.
- (e) Improvements to existing arrangements are possible and some suggested approaches include:
- ◆ Carbon credits for cogeneration: some companies support alternative generation technologies such as wind power when they could be investing in cogeneration opportunities;
  - ◆ Change the demand TOU tariffs to provide more incentive for demand control and energy generation;
  - ◆ The Australian Energy Regulator is a move in the right direction, provided this can act independently;
  - ◆ Placing a value on carbon will support the business case for energy efficiency projects; and
  - ◆ Enabling curtailable load to be traded better, i.e. more efficient use of these systems to deliver more value to the companies involved - what is needed is a market structure which gives companies whose prime business is not generation or shedding power, the ability to help the overall load decision.

## Concluding Remarks

A number of general conclusions outside of those already presented can be drawn. One of these is the need to recognise and reward “early movers”. The industry respondents sketched a future world where:

- ◆ Regulatory load will increase;
- ◆ Energy will be more expensive;
- ◆ The potential for energy intensive companies to be less competitive exists; and
- ◆ Carbon and emissions trading is likely.

In this world energy efficiency will always be important for operations. The intangibles associated with EE projects will also become more important; respondents focused on green products and other spin offs. Industry wants programs which assist end users to:

- ◆ Perform well;
- ◆ Publish their performance and highlight successes; and
- ◆ Engage on an equal basis to generators

Industry wants coordination and not fragmentation between and within jurisdictions. Industry responds to consultation and benefits from consultative processes. They are looking for programs which are clear, have limited uncertainty, are uniform and simple. They recognize that there will be financial implications associated with these programs and acknowledge that there is value in this, both because it can assist them in adjusting values and setting priorities. However, they prefer support to intervention in these programs. Programs should be structured, transparent and have efficient bureaucracy.

## Directions for EUAA

In addition to targeted questions regarding demand management, National Electricity Market issues and energy efficiency, members were invited to comment on two additional areas:

- ◆ What factors will influence the future directions of energy efficiency programs?
- ◆ What key areas can EUAA focus on to continue to support members' businesses?

### FUTURE DIRECTIONS FOR EE

- ◆ **Demand Management** in the **National Electricity Market** is actively pursued by a number of members, via voluntary arrangements with electricity providers. **More can be achieved here, including in the area of cogeneration and embedded generation.** Certainty in policy direction, effective pricing, less fragmentation in terms of regulatory regimes and increased government support for cogeneration are essential if the significant potential in this area is to be realised. The Australian Energy Regulator is a step in the right direction towards achieving these objectives.
- ◆ **EE will always be important for operations**, as it is a prerequisite to staying in business. EE is really just an indicator of efficient operations, it has the potential to improve profit and thus shareholder value.
- ◆ A **future world** view of **increased regulatory load** (including reporting load), reduced and **more expensive supply**, reduction of brown coal power generation and a potential switch to nuclear fuels was presented. Concerns were expressed by some energy intensive **industries** that they would be come **less competitive** in this type of future market. Local authorities are concerned about security of supply in this context and the potential for them to lose the ability to grow local business.
- ◆ **EE spin-offs are important** to companies that see value in the **intangibles** associated with selling a **“green product”** specifically for companies who are servicing energy intensive clients and who themselves subscribe to EE programs.
- ◆ Companies would like to see **more development** on the same lines as what is happening now, **programs which require companies to perform well**, and place an **emphasis on publishing** their results. However, there needs to be **co-ordination and not fragmentation**; there is concern about EE programs across the states having the same aims but different deliverables. The potential exists for these programs to be co-ordinated across the states and driven nationally, focusing on EE as a local agenda means that there is significant potential to lose the value add associated with EE projects.
- ◆ **Concerns were expressed about the focus on generators and not users**; the generators are being used to impose taxes and levies on high energy users; there are not many incentives offered to high energy users as it is assumed that they can afford these additional costs, but the truth might be different. NGACs, MRETs, etc. offer only very limited opportunities to get anything back.

- ◆ Further, the **assumption** is made that **the big companies** can **afford** to comply because of their size. There are two concerns here, the first is that companies have only reached this size because they **are already addressing these issues**, the second that this sort of initiative have the potential **to drive companies out of Australia** if cost of compliance becomes prohibitive.
- ◆ National regulation under the EEO targets large users, and these companies are typically already engaged in a significant number of EE activities. **What is required is a program that recognises the efforts of early adopters and business issues that may reduce capital availability.**
- ◆ Concerns were expressed over whether some government programs deliver any lasting benefit.
- ◆ Some respondents felt that **emissions and carbon trading is likely** to happen, or perhaps some form of carbon limitation. In the main, entities who had this response saw it as a **potential opportunity** for themselves, as well as to support energy efficiency. Concerns were expressed about how such a program might be introduced, and that care should be taken when structuring and implementing such a program.
- ◆ The **focus on energy efficiency has the potential to lose other directives** such as substitution of non-renewable energy with renewable energy where available. Targeting energy efficiency as an end in itself is shortsighted because it stops companies from investigating the full range of measures that can be adopted.

## **EUAA FOCUS AREAS AND OBJECTIVES**

### ***Lobbying, Representation & Advocacy***

- ◆ Lobby for a common approach to Demand Management, Energy Efficiency and Greenhouse Gas opportunities.
- ◆ Assistance to liaise with state and federal governments to streamline programs, remove overlaps, ensure effectiveness of programs.
- ◆ Makes sure that there is industry involvement and consultation in the development and implementation of programs; the EEOA is a very good example of communication and consultation, want more of the same.
- ◆ Maintain representation to various government bodies and help channel input to legislation; companies don't have time to do this on their own; and continue representing the interests of industry.
- ◆ Ensure negative impacts of programs are minimised (financial cost of compliance, energy charges imposts, man power requirements etc).
- ◆ They should be an industry advocate pushing what we perceive as the real world, they should be thinking for the long term benefit of the industry.
- ◆ Better access to gas supplies (currently very limited interconnectability and access to supply)

### ***Information & Knowledge***

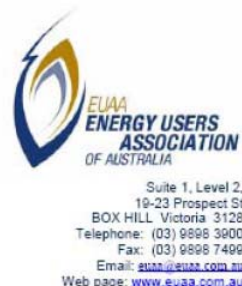
- ◆ Help distil all the things that go on out there; they are a great source of information about what is happening; it is a great time saver.

- ◆ Their interpretation of existing initiatives for the energy users is very important.
- ◆ Acting as a co-ordinator of industry concerns is also very important.
- ◆ More information on access to funding.
- ◆ Decoding RECs, GECs and other mandatory programs passed onto them.
- ◆ Better access to other large users in Queensland, both from an information-sharing opportunity, as well as keeping in touch with the large users within the local area.
- ◆ We would look to EUAA to provide specialist comment on any deeper aspect, for example, interpretation of legislation schemes, we do not look to them for advise, only interpretation.

### ***Demand Management***

- ◆ Lobby for a common approach to Demand Management / Embedded Generation, Energy Efficiency and Greenhouse Gas opportunities
- ◆ Funding for DM/EG activities – focus on assisting members identify what incentives are available that can support their business cases for DM/EG - e.g. NSW \$40 million ESF.
- ◆ Continue to focus on improvements with regard to NEM factors / issues / concerns as outlined above, in particular the coordination and simplification of schemes, pricing, market structure and policies that can facilitate greater levels of DM/EG activity.
- ◆ Initiatives around EE / DM / EG must be price driven and transparent – if not price driven the incentive to participate is low.
- ◆ General information on the energy market and future implications for companies.
- ◆ The level of work they are doing at the high level of the market, with the Australian Energy Regulator and so on.
- ◆ Work to remove uncertainties over programs (eg MRET, NGGAS) in terms of duration, targets, value of commodities etc.

## Appendix A: PC Inquiry Response



15<sup>th</sup> July 2005

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Productivity Commission  
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Collins St East, Melbourne 8003  
Email: [energy@pc.gov.au](mailto:energy@pc.gov.au)

To Whom It May Concern:

### **EUAA Comments on PC's Issues Paper – Inquiry into Energy Efficiency**

The Energy Users Association of Australia (EUAA) welcomes the opportunity to provide a submission to the Productivity Commission (PC) on its Draft Report –Energy Efficiency.

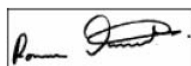
The EUAA recognises that the timing of this further submission is towards the final stages of the PC's Inquiry. However, the Association represents the interests of many of Australia's largest energy users across all jurisdictions. Many of these organisations are participating in a range of energy efficiency-related programs, and many will need to comply with future requirements, for example the Commonwealth's Energy Efficiency Opportunities Assessment (EEOA). Several of our members are involved in the development of this measure via consultation with the Commonwealth Government.

The EUAA requests that the Productivity Commission takes the attached comments on the Draft Report into consideration in the preparation of its final report and recommendations.

The attached submission sets out our views on the Draft Report. The views are formed solely on the basis of what is in the best interests of energy users. The EUAA is uniquely placed to provide the PC with such a view, given its involvement in both national and state issues and its position as the national association of energy users.

If you have any queries regarding our comments you can contact me on telephone number (03) 9898 3900 or e-mail [roman.domanski@euaa.com.au](mailto:roman.domanski@euaa.com.au).

Yours sincerely



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## **PC Energy Efficiency Inquiry Draft Report Submission\***

The EUAA is a peak body representing the interests of a wide range of businesses relating to energy matters. Our members cover all Australian states, represent many sectors, and most are large energy users that contribute significantly to the Australian economy.

The EUAA is a non-profit organisation focused entirely on energy issues. Members determine EUAA policy and direction. The EUAA represents a wide spectrum of end-users in all Australian States and has over 75 Members (and growing), predominantly business end-users with activities across all states and many sectors of the economy, and including many of the largest energy users in Australia. EUAA activities cover both national and sub-national issues [see <http://www.euaa.com.au/> for more information on the EUAA].

As highlighted previously, many EUAA members already have a commitment to undertake energy efficiency within their organizations and have done so in the past. Some have deliberate strategies and internal energy saving targets in place. These are mainly set for commercial reasons such as saving costs, although a number also take into consideration their desire to save energy for environmental reasons (eg as part of the Greenhouse Challenge program or similar State programs, or simply as an expression of 'good corporate citizenship').

The EUAA re-iterates several points from its submission to the Productivity Commission's Issues Paper – Inquiry into Energy Efficiency; specifically:

1. There are a **large number of energy efficiency programs** at Commonwealth and state-based levels in operation throughout Australia, some based on sound public policy, and some that have not been well considered and which have excessive costs of compliance for the outcomes generated. Some programs, like the energy audits required of manufacturers under Victorian EPA's SEPP scheme, **do not recognise early action** via other initiatives, whether in-house driven or achieved via participation in other programs. This clearly places an unfair imposition on business.

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*Productivity Commission Energy Efficiency Inquiry Draft Report – Submission*

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2. The **lack of co-ordination** between jurisdictions and integration of programs frequently results in the multiplication of administrative effort by business (and government) to meet comparable objectives, thus imposing unnecessary costs. The EUAA sees that the Commonwealth has an important role to encourage all **Governments to co-ordinate their activities** (between programs and across jurisdictions) to achieve greater energy efficiency uptake in a more economical way for industry. The MCE appears to provide the best forum for this to occur through the National Framework for Energy Efficiency (NFEE).
3. Provision of **incentives to business** and benchmarks is preferred to poorly designed regulatory measures that simply add cost and deliver little of value to either the business concerned or the nation.
4. The Energy Efficiency Opportunities Assessment (EEOA) measure, **if designed and implemented effectively**, and in **full consultation with industry**, especially to ensure that it takes account of commercial considerations, may be a step in the right direction towards a co-ordinated approach to energy efficiency that reduces transaction costs and is recognised across jurisdictions.
5. The EUAA has undertaken a great deal of work in addressing the role of demand management in the National Electricity Market (NEM) and this has been recognised by the MCE. It recommends that policy makers, regulators and providers of energy **facilitate greater use of demand management** in order to encourage consumers to respond to price signals, consume less energy and reduce prices and improve competitiveness. The EUAA welcomes support for demand side response by the MCE as a positive step towards achieving this.
6. ‘Audit’ (technical opportunities study) programs need to be appropriately targeted to engage industry in a consultative, co-operative process that **gains internal ‘buy-in’** at all levels. Assessors involved in such programs need to have the necessary **knowledge of the relevant industries and processes** to be able to add value, and an assessor accreditation/certification scheme could be designed to facilitate this.
7. It should be noted that the largest energy losses are in the supply side and distribution of the energy to the end users and some actions are certainly possible to make the supply chain more efficient. End users can influence the efficiency of the supply and distribution of energy by altering their usage patterns. Even small reductions (a few percentage points) in the use of energy at peak times will create energy savings equivalent to the total consumption of some 300,000 homes.

Drawing on the above comments to the PC’s Issues Paper, and the Draft Report, the EUAA offers the following additional comments in relation to a number of the draft findings and draft recommendations of the Draft Report.

*Productivity Commission Energy Efficiency Inquiry Draft Report – Submission*

**Comments on Selected Draft Report Findings and Recommendations**

***DRAFT RECOMMENDATION 11.2***

*National Framework for Energy Efficiency Stage One proposals (that are not directly affected by other recommendations) should be deferred until independent evaluations of existing energy efficiency programs have been undertaken . The evaluations should determine the effectiveness of these programs in promoting the uptake of cost-effective energy efficiency improvements.*

The EUAA concurs with the PC's view that proper evaluations of energy efficiency programs should be conducted, and sees this as a matter of sound public policy. Equally important is that the objectives, costs and benefits of all aspects of the NFEE Stage One measures be properly evaluated, in consultation with stakeholders, as a matter of sound public policy before implementation. However, the EUAA would be concerned if the proposal that the NFEE Stage One process be deferred until such time as independent evaluations of existing programs have been carried out resulted in a long delay implementation. Specifically:

- ◆ A key component of the NFEE has been to develop a platform for national co-ordination in relation to energy policy. The fragmented nature of existing policies and programs creates high costs to business and end users, leads to inefficient use of resources and can have adverse impacts on investment decisions. The deferment of NFEE Stage One risks maintaining the *status quo* and this aspect of the NFEE at least should proceed without further delay.
- ◆ National leadership, co-operation between governments and delivery of certainty in policy direction across all jurisdictions and in the NEM is critical to ensure that investment decisions related to energy efficiency can be made with predictable outcomes.
- ◆ Review of existing policies should be integrated into, or conducted in parallel with the evolution of the NFEE. This approach should be embedded in the NFEE process on an ongoing basis, in order that reviews, needs-assessments and improvements can be made on a continuous basis.
- ◆ Review of policies should be conducted in a transparent manner, and involve consultation with industry and other end users such that the true costs and benefits can be determined with accuracy and better inform ongoing policy development.

The EUAA believes that, in the absence of continuing momentum towards a national approach, that involves close co-operation between governments and consultation with end users, the retention of the status quo will adversely affect EUAA members and energy users more broadly, via ongoing high transaction costs, uncertainty in decision-making related to energy efficiency, and fragmented policy approaches across all states and in the NEM.

*Productivity Commission Energy Efficiency Inquiry Draft Report – Submission*

**DRAFT RECOMMENDATION 8.1**

***A policy of mandatory energy efficiency opportunities assessments is not warranted on private cost-effectiveness grounds. There would be no justification for mandating the implementation of Energy Efficiency Opportunities Assessment results.***

Many of the EUAA's members and other large users will be required to comply with the requirements of the Energy Efficiency Opportunities Assessment (EEOA) measure. Energy efficiency opportunities assessments may assist to identify, and augment existing procedures for, identifying cost-effective energy savings. The EEOA:

- ◆ Should involve close consultation with energy users to ensure that it:
  - Is influenced by commercial and practical considerations;
  - Is designed to better inform and add value to industry;
  - Can improve competitiveness;
  - Encourages innovative energy saving solutions for industry which do provide viable commercial returns; and
  - Is not administratively burdensome; and
  - Avoids measures with excessive transaction costs compared to the savings benefits.
- ◆ Can provide a nationally-consistent framework for assessment of energy efficiency opportunities, and outcomes can serve to better inform governments of barriers to energy efficiency that warrant their involvement and/or the provision of incentives. The alternative may be greater exposure of business to fragmented and inconsistent energy efficiency schemes by different jurisdictions.
- ◆ Should be developed in conjunction with the development of assessment standards that are more appropriate to the needs and whole-of-business focus of industry.
  - Any measures to accredit assessors / auditors should be founded on an identified need and benefit from accreditation and recognise commercial and practical imperatives as key drivers and the need for industry knowledge as a core competency, and not simply address "traditional" focus areas of many energy efficiency programs such as generic energy using technologies.
- ◆ Should be recognised within all jurisdictions as meeting their requirements for assessment of energy efficiency opportunities and reporting of same, including recognition for early action, to the extent such requirements may exist on a voluntary or mandatory basis. For example, organisations that meet the requirements of the planned DEUS mandatory energy assessments by the 200 largest energy users in NSW should have efforts here recognised within the EEOA measure, and vice versa. Similarly with the State Environment Protection Policy (Air Quality Management) (SEPP (AQM)) mandatory requirements on licensed premises run by the EPA in Victoria.

The EEOA measure is still under development, as is the DEUS scheme. The EPA scheme has been in place for long enough to establish that it has some serious shortcomings and should be reviewed. Hence, it is timely to incorporate the above elements, in consultation with energy users, and help to deliver cost-effective and value-adding outcomes. Provided this is done, the EUAA believes that the EEOA program, though perhaps not perfect, can make a worthwhile contribution to national

*Productivity Commission Energy Efficiency Inquiry Draft Report – Submission*

energy efficiency policy and objectives and could be used to avoid the costs of separate and inconsistent State schemes. However, we recognise the risks that, if this is not done, then the PC's lack of faith in the program will be realised.

**DRAFT FINDING 12.1**

*A national energy efficiency target is a poorly focused policy instrument that would be very difficult and costly to implement in an effective manner. It cannot be justified on the grounds of privately cost-effective energy efficiency. It may help to drive investment in energy efficiency, but this would be at the expense of economic efficiency. As a measure to address greenhouse gas abatement, it has serious disadvantages compared to other options such as an emissions trading.*

The EUAA supports the finding on a national energy efficiency target. Energy users do not see the need or justification for such a target, especially if it were poorly designed and not aligned to robust benefit-cost analysis. A single target would also fail to recognise industry specific differences and large trade exposed industries would be particularly badly affected. The issue of setting baselines, consistent measurement and treatment of past efforts (early movers) would also be amongst the many vexed issues in such an approach.

**DRAFT FINDING 13.1**

*More cost-reflective pricing has the potential to improve energy efficiency by influencing both consumer and supplier behaviour, particularly in the longer term when consumers have both more information and opportunity to modify their behaviour, and producers have the opportunity to respond to changed market conditions.*

**DRAFT RECOMMENDATION 13.1**

*Any mandated roll out of interval metering devices should be subject to a comprehensive benefit-cost analysis. Mandated roll out of technologies should not preclude choice in the device or competition between service providers.*

The EUAA supports these recommendations. The adoption of cost-reflective pricing and rollout of interval metering as a means of providing improved signals to consumers can have positive energy and demand outcomes, and lead to lower prices, where cost-effective. However cost-reflective pricing alone is unlikely to lead to improvements in energy efficiency and demand response. Other measures are required to support this, such as information and education, as well as the provision of incentives ('carrots') in some instances, not simply reliance on 'sticks'.

In addition the EUAA considers that:

- ◆ Regulatory measures such as those adopted in some jurisdictions to recognise cost recovery for investment in demand management should be adopted consistently throughout the NEM. The existing incentive regime for regulation of energy networks has done virtually nothing to encourage networks to undertake demand management as opposed to their normal practice of augmenting the network. Quite simply, the regime rewards regulatory

*Productivity Commission Energy Efficiency Inquiry Draft Report – Submission*

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‘gaming’ for increased capex combined with a strategy of spending on capex up to a defined regulatory service level (often less than the allowance as the difference is retained by the business). From a demand management perspective, the only way to overcome this is to provide some specific incentive (or obligation) to ‘invest in some DM’.

- ◆ Market-based Demand Side Response (DSR) trials in which the EUAA has been extensively involved have shown that very significant cost-effective potential savings to energy users via demand management (including energy efficiency) and lower prices are possible. This applies especially to ‘lopping off’ the peaks in demand, which are growing strongly and, in the absence of DSR, will require substantial infrastructure investment in future. However, DSR opportunities can also contribute to the incentives to introduce energy efficiency technologies.

In this way, the market that has been introduced via the National Electricity Market (NEM) can be used to good effect to provide commercial incentives for more DSR. The EUAA trial showed the willingness of large energy users to respond to price-based signals for DSR in respect of both opportunities in the NEM energy market (eg in response to high pool prices) and also if built into the incentive regime for network pricing. However, certain positive steps, outlined in the EUAA DSR Trial Report, are needed in both areas if these opportunities are to be realised. In particular, there is a need to create customer and market awareness, to remove barriers to take up, to ensure the establishment and sustainability of a DSR facility operator and to improve incentives for network DSR through changes to the regulatory regime. Copies of the DSR Trial report have previously been provided to the PC and are available from [www.euaa.com.au](http://www.euaa.com.au) under *Demand Side Response*.

- ◆ Regulatory and policy approaches should seek to fully exploit the significant potential benefits that can arise to end users from Demand Management, and should seek to build capacity among end users, retailers and distributors to develop and implement measures that are cost-effective, improve network asset utilisation and lead to lower prices. These measures can reduce costs for end users while at the same time provide a very good rate of return for capacity constrained utilities.

### **Additional General Comments**

#### ***Policy Perspective***

The EUAA generally is supportive of the PC’s position that energy efficiency is not an end in itself and should only be supported if it achieves economical outcomes, that market interventions should only be introduced if there is a demonstrable positive benefit-cost outcome and that market oriented and less interventionist policies should be preferred. We also support the PC position that business users already have commercial incentives to apply energy efficiency measures and do so. However, this often goes unseen and unnoticed.

*Productivity Commission Energy Efficiency Inquiry Draft Report – Submission*

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The PC's Draft Report also makes reference to Australia's "cheap" energy as being a factor in determining how much energy efficiency is undertaken. Whilst this may be the case, energy is a major source of comparative advantage for Australian industry and this should be clearly stated. It would be poor policy to impose energy efficiency obligations on industry that damage this advantage. If Government's have a policy goal of industry achieving more energy efficiency than they do of their own volition, then they should provide assistance to industry to do so.

In trade exposed sectors, the cost of energy is not the only driver for energy saving. These businesses are also driven to save energy out of a need to remain competitive in their output markets and will undertake energy efficiency for this reason regardless of the cost of energy.

It would also be relevant for the PC to consider that there are cost pressures on energy prices in the future, including through greenhouse and energy efficiency policies, such that the comparative advantage we have in energy may be threatened,

The EUAA notes the Draft Report's comments relating to the need for objectives in relation to energy efficiency policy to be clarified, for example, where the reduction of greenhouse gas emissions is the real policy target.

- ◆ The EUAA concurs that the clarification of objectives will influence the instruments that are chosen to achieve this goal, and that a coherent, soundly-based national response is required.
- ◆ The EUAA concurs that energy efficiency is one of the potential responses to an objective such as reduction in greenhouse gases, but not the only response. The clarification of policy objectives in this regard would lead to a greater range of potential response mechanisms and lead to more cost-effective solutions.
- ◆ The EUAA notes that initiatives aimed at improving the operation of the NEM and cost-effectiveness to end users and providers, including demand management, can be a further policy objective in which energy efficiency can have a role, but not necessarily the only or the most cost-effective role. Demand management initiatives explicitly recognise this in seeking cost-effective solutions from a range of potential measures. The EUAA believes that the PC can and should make more of this in its final report. We again refer to the report on our DSR Trial (available from [www.euaa.com.au](http://www.euaa.com.au)) and the forthcoming report on our DSR sectoral case studies, which will be published soon (an advance copy can be made available to the PC on request).

*Energy Efficiency Incentives for Business*

The PC has tended to adopt a position that EE incentives should not be provided to business users, as they already have sufficient drivers to introduce EE measures through their business imperatives to save costs and to act as 'good corporate citizens' in helping to mitigate greenhouse impacts. Whilst we agree with the PC's position that business is motivated to save energy costs, we also believe that for the PC to then draw

*Productivity Commission Energy Efficiency Inquiry Draft Report – Submission*

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the conclusion that no energy efficiency incentives should be provided to businesses, does not recognise the full set of circumstances that prevail.

First, business consumers in Australia are responsible for around two-thirds of energy use and it is therefore perhaps natural that governments seek to involve them in EE campaigns. Large users are especially susceptible.

Secondly, business users are more concentrated as a group than domestic users, who are numerically far larger and therefore more difficult to 'harness' and 'motivate'. Business users also have more resources and are better equipped to activate EE measures. This again makes them a natural 'target' for government EE measures

Thirdly, on grounds of 'equity' and 'pain sharing' governments will probably always seek to have industry involved in EE.

Finally, the perception that Australian business has access to "cheap" energy (also advanced in the PC draft report) is an added factor motivating government and some in the community to 'target' industry for EE action. As mentioned above, this often fails to appreciate that our relatively low energy prices (by some international standards) are a source of important comparative advantage for Australia and help promote a more competitive nation with important economic benefits. (Note that recent OECD data shows that Australia has relatively low energy prices but is by no means the lowest and already has higher prices than several of our competitor nations, with the threat that prices will only rise in future.) Moreover, trade exposed Australian energy users already face the imperative of international competition as an incentive for greater EE. The introduction of costly and onerous EE measures could damage our competitiveness.

The EUAA is therefore not in complete agreement with the PC's draft report on this. As mentioned elsewhere in this submission, we agree that costly, onerous and interventionist EE policies should not be applied to businesses. But, for the reasons advanced above, we also believe that there is a case for providing businesses with financial incentives to undertake more EE, or earlier action on it, than would be the case with pure commercial drivers operating and that governments are unlikely to exempt business users from EE actions. Unless the PC recognises this, there is a greater risk that business will be saddled with costly, onerous and interventionist EE measures.

***Minimum Energy Performance Standards***

The EUAA is supportive of mandatory energy performance standards (MEPS) only to the extent that these have demonstrable benefits to end users and purchasers, are applied when other possible approaches to improvement are not cost-effective, are supported with rigorous analysis, serve to eliminate the poorest-performing products and practices, and encourage cost-effective improvements via innovation by manufacturers.

**Summary and Conclusions**

The EUAA supports energy efficiency policy measures that are:

*Productivity Commission Energy Efficiency Inquiry Draft Report – Submission*

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- ◆ Based on sound analysis and rationale;
- ◆ Nationally consistent;
- ◆ Developed in consultation with end users;
- ◆ Appropriate to the overarching policy objectives; and importantly,
- ◆ Cost-effective to energy users and sound commercially (or provide incentives to bridge the gap between sound commercial practice in energy efficiency and any government policy objective).

The Draft Report identifies a number of areas within current policies and programs where the above objectives may not be satisfied. The EUAA is in agreement with the Draft Report's analysis and findings in most of these areas.

However, the EUAA believes that the recommendation that proposed NFEE Stage One measures be deferred until evaluations of existing programs is conducted may lead to a continuation of the current scenario, where energy users face multiple transaction costs across multiple jurisdictions to satisfy the requirements of a range of policy objectives and measures. A pragmatic approach, that seeks to recognise the need for greater national consistency, co-operation and co-ordination in energy efficiency and the role this can play in removing current poor policy and regulatory practices in the energy efficiency area, is a more sensible forward path. It is possible that adoption of this aspect of the NFEE is therefore useful, whilst recognising that some other elements of the NFEE may not be as sound and should be thoroughly assessed.

Many members of the EUAA will need to comply with the proposed EEOA measure. Important attributes of the measure should include close consultation with industry, recognition within all jurisdictions, and appropriate knowledge by assessors of industry needs. National consistency in such an approach is an important aspect.

The EUAA re-iterates its support for cost effective demand management responses, market-based approaches to improve signals for demand management through DSR and cost-reflective pricing in the electricity market. The EUAA DSR Trial showed this to be the case (see [www.euaa.com.au](http://www.euaa.com.au) for the trial report). This can have an important bearing on incentivising the use of economical demand management initiatives in the NEM, resulting in a 'lopping' of peak electricity demand growth and also greater energy efficiency enabling technology. We believe that the final PC report needs to address this important matter more fully.

## Appendix B: Survey of EUAA Members

### Review of Energy Efficiency Programs and EUAA Directions on Energy Efficiency

The EUAA has secured some funds from the NEM Advocacy Panel for a project on energy efficiency (EE). EE is a looming issue for all members with increasing attention being paid to it both internally in member companies and also with a plethora of Government (Commonwealth and State) schemes, incentives and regulatory obligations.

**OBJECTIVE: Assess the various schemes and obligations related to EE and how these impact on energy users (and how they can better access and learn more about them)**

#### CURRENT PROGRAMS

- ◆ What programs / schemes is the member part of / subject to?
- ◆ What is the aim and scope of the program(s)?
- ◆ What delivery mechanism is provided / required?
- ◆ What if any incentives or grants are available?
- ◆ What costs in \$\$ or time/personnel are incurred internally to comply?
- ◆ What impacts are there on members business – costs, time, benefits, opportunity?
- ◆ Overall impression of program(s)
- ◆ Is there any clear overlap between programs that the member has to participate in and/or report against?

#### PAST PROGRAMS

- ◆ What program(s) has the member participated in previously?
- ◆ What has worked / not worked within these programs that could inform the current debate on EE?

#### OWN INITIATIVES

- ◆ What type / level of R&D related (directly or indirectly) to EE is the member involved in or aware of, that may have material impacts on energy efficiency / productivity in the medium to long term?
- ◆ Is EE opportunity 80% technology (locked in) to 20% better practice / retrofit or other mix?
- ◆ What is the member doing internally and of their own volition?
- ◆ Why are opportunities being pursued internally if this is the case – what is the driver?

#### DEMAND MANAGEMENT & EMBEDDED GENERATION

- ◆ Has the member past or current experience with Demand Management programs or initiatives at network or retailer level?
- ◆ Distributed generation / cogeneration – is this an opportunity for the member business, and if so what barriers (eg at NEM level) exist to lessen opportunity for improvement?
- ◆ What does the member want to see in terms of regulation and practices from NEM, distributors etc to improve access to DM / EE / GHG opportunities?

#### FUTURE OUTLOOK

- ◆ Where do members see EE etc going into the future and how will they be affected? What are their main concerns?

**OBJECTIVE: How do members think the EUAA can help them in this area over the next 2 years, for example top 3 areas of assistance in priority order?**

Program Type	Where?	Name	Description
Capacity building, opportunities assessment	Commonwealth	Energy Efficiency Opportunity Assessment (EEOA)	Opportunities assessments and reporting by top 250 energy users
	New South Wales	Energy Savings & Water Savings Action Plans (ESAP, WSAP)	Action plan and reporting by top 200+ electricity & water users
	Victoria	Victorian EPA: State Environment Protection Policy (Air Quality Management) (SEPP(AQM))	Mandatory audits, implementation of economic projects, reporting by licensed premises
Implementation incentives, funding	Commonwealth	Greenhouse Gas Abatement Program (GGAP)	Funding for large scale abatement
		Renewable Energy Certificates (RECs)	Create certificates from generation of eligible RE towards MRET target
	New South Wales	Energy Savings Fund & Water Savings Fund	\$40 million energy fund + \$30 million water fund for 5 years
		Demand Management & Planning Project	\$10 million over 5 years to investigate, implement DM (Sydney)
		NSW Greenhouse & Large User Abatement Cert. (NGAC, LUAC)	Create certificates from supply, DSA to enable retailers meet GHG targets
		Sustainable Energy Research & Development Fund (SERDF)	Incentives to assist development of technologies in sustainable energy
	Victoria	Business Energy Innovation Initiative (BEEI) Sustainable Manufacturing Partnerships	Financial support to \$150k for new projects, industry partnerships
	Queensland	Sustainable Energy Innovation Fund	R&D demonstration, commercialise innovative EE/RE projects
		Gas Electricity Certificates (GECs)	Create certificates from eligible generators to enable retailers to meet performance targets
	South Australia	Sustainable Energy Research Advisory Committee (SENRAC)	R&D grants for competitive proposals that have strong commercialisation prospects
		South Australian Energy Utility (ETSA)	\$20 million in funding for ETSA to implement DM opportunities
Voluntary program	Commonwealth	Greenhouse Challenge Plus	Reporting, GHG plans, GH Friendly, Generator Efficiency Standards
		Eco-efficiency Agreements	Information, action plans, possible financial support
	Queensland	EcoBiz & Industry partnerships	Information, support steps through eco-efficiency framework, demonstration, possible incentives
Regulated charges, levies	Commonwealth	Mandatory Renewable Energy Targets (MRET)	9,500 GWh additional renewables scheme
	New South Wales	NSW Greenhouse Gas Abatement Scheme (NGGAS)	Mandatory benchmarks for retailers, cost pass-through to users
	Queensland	13% Gas scheme	Increase gas % of generation mix

## Appendix C: Profile of Participating EUAA Members

The following sections summarize:

- ◆ Characteristics of members surveyed;
- ◆ Types of energy sources employed in their operations;
- ◆ Drivers to improve energy efficiency;
- ◆ Internally-promulgated initiatives;
- ◆ Types and nature of R&D on energy efficiency; and
- ◆ The influence of technology on the nature and timing of improvement in energy efficiency.

In summary, the 14 members who responded to the call for interviews come from a diverse set of industries, with a mixture of locations, trade exposure and markets. Typically the interviewees were energy managers and did not necessarily have a strategic management focus. The energy costs of the interviewed companies ranged from less than \$5 million per year, to in excess of \$100 million per year.

We found that energy and greenhouse management activities varied greatly between the respondents. All but one of the companies had some energy management activity within the company. Half of the companies reported specific energy programs, the balance incorporated energy management into either environmental or productivity programs. Given time restraints we were not able to investigate these systems in depth and cannot comment on the ability of these systems to support and track continuous improvement. A third of the respondents reported a significant allocation of resources, both staff and funds, to energy management within the company.

## COMPANY CHARACTERISTICS & ENERGY SOURCES

**Table C1: Summary of member characteristics**

Company Characteristics	Count of Companies interviewed	
Single site : Multiple Site	4	10
Australia Only : Operating in more than one country	7	7
Single State : Multiple State	7	7
Diverse : Single Product	7	7
Downstream processing & Retail : Primary Production (may be both)	12	5
Energy User : Energy User and Generator	10	4
Trade Exposed : Domestic Market- Oriented	3	11

**Table C2: Energy sources by EUAA members**

Energy Source	Count of Companies
Primarily Electricity	6
Electricity and Coal	1
Electricity and Gas	4
Electricity and Liquid fuels	1
Electricity, gas & liquid fuels	2

## INTERNAL INITIATIVES

### *Internal Drivers*

- ◆ For large industry the **internal drivers for change are dominated by economic performance**; a project will only go ahead if it meets the requisite hurdle rates. Energy efficiency projects are more likely to achieve the required internal hurdle rates as they are generally more cost efficient than competing projects with poor energy use. The balance here is between cost of technology, depreciation, and on-going cost of energy. The low hanging fruit will also be picked first. Of specific interest here is that respondents reported **project payback times that were much shorter than strategic planning times**; this misalignment of time scales can render energy efficiency projects unviable. A number of respondents are in the early stages of addressing energy and its related impacts and are in the process of identifying these projects.
- ◆ **Other drivers** have been the need to **minimize GHGs associated with energy**, the minimization of energy consumption, and the need to **comply with energy regulations**. Some companies aim for excellence in energy management.
- ◆ **EE** is usually brought on board **indirectly** when costs are minimized. Many companies feel that they are doing a lot to address energy efficiency. At the same time, the energy savings components of these projects are not always formally identified.
- ◆ Respondents reported activities dating back to the mid to late '90s. These typically focused on Energy Efficiency and Greenhouse Gases. There was some assessment of the potential cost impact on the business. Drivers for these initial programs were the potential for short term and long term **benefits of EE, impact of energy prices and incentives for selling electricity**.
- ◆ Many companies reported conducting internal audits, and are training people within the company to conduct these. This is driven in the main by cost savings.
- ◆ A number of companies have processes for sharing information and training in-house between different locations.
- ◆ **Each company has its own specific economic and energy use signature and most manage their energy draw to minimize cost**. The costs of these initiatives in time and money can be significant, however, they are only undertaken if they are economically viable.
- ◆ **For some companies competition is a significant internal driver**. Reporting initiatives that could showcase successes (such as the Greenhouse Challenge) are not attractive as they can provide too much information to the competition.
- ◆ **For local authorities** the drivers are first economic, and then corporate profile and **community goodwill**, as well as current momentum around the issues, and regulatory considerations (such as meeting water quality requirements).
- ◆ While energy and associated carbon issues are significant for companies, energy **efficiency projects** as solutions for these are low down on the agenda, they are **not seen as the primary solution** to these issues.

### Internal Programs

**Table C3: Internal programs of EUAA members**

Scope of Programs	Main Program Aspects	Number of Respondents
Environmental Programs	Energy Intensity Targets GHG Baselines and Targets Compliance with regulations and voluntary programs	2
Productivity Programs	Integration of Safety, Energy, Productivity and Reliability Productivity and efficiency are business drivers	2
Energy Specific Programs	Corporate energy benchmarks Have grown out of other programs (productivity or environmental) Minimise energy cost and consumption Compliance with regulations and voluntary programs	10

### R&D Focus

Some of the main comments from discussion with members include:

- ◆ For companies with a high energy draw, there is typically a focus on energy efficiency. Some EUAA members indicated that energy efficient equipment is more likely to be chosen as it is likely to be more economic than competing equipment, which is not as energy efficient. Schemes like NGACs are seen as “icing on the cake”, and it is unlikely that these GHG credit schemes will ever be a driver for technology development and adoption;
- ◆ Some members, approximately one third, have dedicated resources focused on energy efficiency, including both a focus on improving existing operations and on investigating innovation;
- ◆ Depending on the product of the company, there may be a greater focus on carbon management than energy management, and thus carbon efficiency and sequestration;
- ◆ For industrial respondents, there is a focus on developing novel technologies, with the understanding that the process is thermodynamically limited; the closer a process gets to this thermodynamic limit, the more difficult it is to control which reduces turn down capabilities and can affect DM response capability;
- ◆ Some research and development has focused on renewable energy technologies, potentially at the expense of energy efficient technologies; the main reason for this shift in priorities has been sources of funds to support renewables, which are available to the users of electricity;
- ◆ Some research is being conducted into the definition of efficiency, the development of KPIs to track and report efficiency, as well as methods of monitoring efficiency.

## Conclusions for Research and Development

The conclusions that can be drawn from discussions on R&D include:

- ◆ A limited number of respondents reported substantial research and development activities *per se*, though new technologies and techniques are commonly tested and adopted where cost effective;
- ◆ As internal drivers have shown, the overriding driver is the economic performance of new technologies;
- ◆ Focussing on energy efficiency has the potential to skew the area of research away from areas which have the potential to deliver more sustainable outcomes across the board;
- ◆ Any additional income from energy efficiency measures (such as tradeable certificates) is not a driver for technology development, mainly due to the uncertainties associated with these markets at present; it is an added extra and seldom included into the economic analysis;
- ◆ Some research is being conducted into systemic elements, such as the definition of efficiency and the development of KPIs

### Technology Mix

Most members indicated that a substantial part of their opportunity for improvement in energy efficiency lies in technology changes, which can have long lead times. In general, energy efficiency opportunities at the level of ancillary services and improved control / optimisation of services and processes tends to be the focus of EE activities. Step changes are capable of occurring generally when assets reach the end of their useful or economic life.

**Table C4: Capacity for EE to Influence EUAA members**

Technology Influence on EE Potential	Number of responses
Very High	3
High	7
Moderate	3
Low	1

## CONCLUSIONS

Members' characteristics, in terms of structure, markets, and size and types of energy sources, influence the nature and degree of their response to energy efficiency.

- (b) Notwithstanding the diversity between members, and the nature of influences, a central theme to nearly all members surveyed in this work is that drivers to improve energy efficiency do exist, and are frequently acted on internally;
- (c) Internal drivers are dominated by economic performance, while reducing greenhouse gas emissions and meeting compliance requirements are also important;
- (d) Energy efficiency, though important, is not seen by all EUAA members interviewed as the primary means by which they can reduce their

greenhouse gas emissions, and EE in some cases is heavily influenced by technology change;

- (e) Almost all members surveyed have existing internal initiatives that directly or indirectly (e.g. via improved productivity, broader environmental performance) target improved energy efficiency;
- (f) Limited direct investment in energy efficiency R&D is made, however, some firms indicated they have substantial human resources active on energy management, and economic performance often requires the adoption of energy efficient technologies.